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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,057	04/23/2004	Jonson Tsai	176-102	9019
23117 7590 12/12/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
BLAIR, KILE O				
ART UNIT		PAPER NUMBER		
4114				
MAIL DATE		DELIVERY MODE		
12/12/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/830,057

Applicant(s)

TSAI, JONSON

Examiner

Kile O. Blair

Art Unit

4114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-7 are rejected under second paragraph of 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “transverse” in claims 5-7 is used by the claim to mean “perpendicular to the base plate plane”, while the accepted meaning is “lying across or parallel to a plane.” The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by Huang (US Pub. No. 2003/0103637).

Regarding claim 1, Huang teaches a headphone device with surround sound effect, comprising a speaker unit (ear cup 1, [0029], Fig. 3) that includes: a center channel transducer (center channel speaker, [0032]); a surround channel transducer (rear surround speaker, [0032]); a mid/woofer transducer (front main speaker if a designated mid range or combo mid/woofer [0032] or the woofer sound channel is a designated woofer, [0039]); and a base plate (cover, [0030]) having a first side and a second side opposite to said first side (two sides of cover, item 30, Fig. 4), said first side of said base plate being formed integrally with first, second and third transducer coupling portions (all three sound chambers 11, 12, and 13 are formed integral with cover, [0039], Figs. 5 and 6), each of said first, second and third transducer coupling portions retaining a respective one of said center channel transducer (sound chambers 11, 12, and 13 which each retain respective speakers 21, 22, and 23), said surround channel transducer and said mid/woofer transducer on said first side of said base plate such that sound generated by the respective one of said center channel transducer, said surround channel transducer and said mid/woofer transducer radiates through said second side of said base plate (sound from speakers through chambers exits through cover at sound output holes 32, [0033]), said first, second and third transducer coupling portions having first, second and third axes, respectively, said first, second and third axes extending in mutually different directions (front main channel sound effect (F), the center sound effect (C) and the surround sound effect (S) where the sound effects are all located on axes extending in mutually different directions, [0039], Figs. 5 and 6).

Regarding claim 2, Huang teaches the headphone device as claimed in Claim 1, wherein said speaker unit further includes a cap member mounted on said base plate and disposed to conceal said center channel transducer, said surround channel transducer and said mid/woofer transducer (housing 10, [0030]).

Regarding claim 3, Huang teaches the headphone device as claimed in Claim 1, wherein each of said first and second transducer coupling portions is formed with a through hole that extends from said first side to said second side of said base plate such that the sound generated by the respective one of said center channel transducer and said surround channel transducer can radiate through said second side of said base plate (sound output holes 32, [0033]).

Regarding claim 4, Huang teaches the headphone device as claimed in Claim 1, wherein said third transducer coupling portion is formed with a set of through holes extending from said first side to said second side of said base plate such that the sound generated by said mid/woofer transducer can radiate through said second side of said base plate (sound output holes 32, [0033]).

Regarding claim 5, Huang teaches the headphone device as claimed in Claim 1, wherein said first axis forms a first angle with a first line that is transverse to said second side of said base plate, and said second axis forms a second angle with a second line that is transverse to said second side of said base plate and that is spaced apart from said first line (front main channel sound effect (F) and the surround sound effect (S) form angles with the lines that are transverse {where transverse means perpendicular to the plane per the applicant's drawings (see applicant's drawings, graphical lines 32 and 22 in Fig. 7 where line 32 is the transverse line) } of the cover where the lines are spaced apart from one another, see Figs. 6 and 7).

Regarding claim 7, Huang teaches the headphone device as claimed in Claim 1, wherein said third axis is transverse to said second side of said base plate (the center sound effect (C) has an axis that is transverse with the cover, see Fig. 5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang.

Regarding claim 6, Huang teaches the headphone device as claimed in Claim 5, wherein one of said angles ranges from 20 to 30 degrees (that of the main channel axis and line is 15-20 degrees, [0043]). Although it appears in Fig. 6 that Huang does not explicitly a value within the range 20-30 degrees for the angle formed by the surround speaker axis and transverse line as required, it would have been obvious for one of ordinary skill in the art to adjust the axis of the sound from the surround speaker by making obvious alterations to the shape and the slope of the sound chamber as suggested with the mouthpiece adjustment [0036].

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Weffer (US Pat. Nos. 6,263,085 and 7,155,025) teach a surround sound headphone set with angled speakers. IKEGAMI (JP Pat. No. 401314098) teaches headphones with angled speakers that are set back from the ear (Fig. 2). Meucci (US Pat. No. 6,038,330) teaches a virtual sound headphone with angled speakers in a distributed arrangement. Pollak (US Pat. No. 6,356,644) teaches headphones with angled speakers that are set back from the ear (Fig. 8). You et al. (US Pub. No. 2004/0109576) teaches a multi channel earphone module with angled speakers. Kim (US Pub. No. 2004/0264727) teaches headphones with angled speakers (Fig. 3).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile O. Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe H. Cheng can be reached on (571) 272-4433. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB
11/27/07

/Joe H Cheng/
Supervisory Patent Examiner, Art Unit 4114